

Effect of adsorbed halogens ...

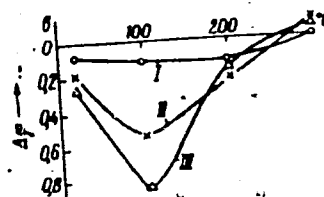
SUBMITTED: October 30, 1960

Fig. 1. Influence of the temperature of iron with chemisorbed chlorine in vacuo upon the difference in the contact potential.

Legend: (I) Chemosorption at 20°C , $p = 5 \cdot 10^{-4}$ mm Hg;
(II) dto. at $p = 5 \cdot 10^{-2}$ mm Hg;
(III) dto. at $p = 6 \cdot 10^{-1}$ mm Hg

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S/020/61/137/004/027/031
B101/B208



Card 4/6

Effect of adsorbed halogens ...

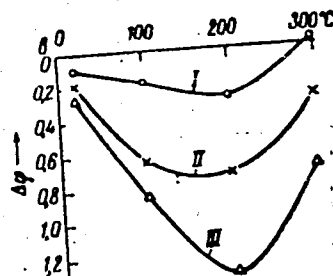
Fig. 2. Change of the difference in the contact potential as a function of the temperature of interaction between chlorine and iron at different chlorine pressures in the gaseous phase.

Legend:

(I) $p = 5 \cdot 10^{-4}$ mm Hg;

(II) $p = 5 \cdot 10^{-2}$ mm Hg;

(III) $p = 6 \cdot 10^{-1}$ mm Hg



Card 5/6

Effect of adsorbed halogens ...

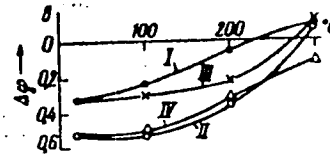
Fig. 4. Change of the difference in the contact potential as a function of the heating temperature of iron containing chemisorbed iodine.

Legend: (I) Heating in vacuo after iodine chemisorption at

$p = 1.10^{-2}$ mm Hg and 20°C ;

(II) dto. at $p = 7.10^{-2}$ mm Hg and 20°C ; (III) heating at an iodine pressure of $p = 1.10^{-2}$ mm Hg in the gaseous phase; (IV) dto. at

$p = 7.10^{-2}$ mm Hg



Card 6/6

MITEL'MAN, P.M.; POPOVA, G.M.; VEREZUB, I.G.; LOBZHINSKAYA, N.G.;
STAROBINETS, S.G.; FILONENKO, O.S.; PONOMARENKO, M.G.

Further study of a new adsorbed soluble pertussis-diphtheria-
tetanus vaccine. Zhur.mikrobiol., epid. i immu. / 1965, 12:
40-44 D '65. (MIRA 19:1)

1. Khar'kovskiy institut mikrobiologii, vaktsin i syverotok
imeni Mechnikova.

Popova, G. M.

Med The biosynthesis of coenzyme A in tissue homogenates.
A. V. Trufanov and G. M. Popova (Inst. Neurosurg.,
Acad. Med. Sci. U.S.S.R., Moscow). *Biokhimiya Zh.*
3-4 (1956).—White rats weighing 150 g. and guinea pigs
weighing 300 g. were decapitated, specimens of the desired
tissues removed, cooled, and homogenized. To each of the
tissue homogenates was added 0 ml. of a soln. containing
2.5 ml. of 0.1M glycine buffer of pH 7.4, 0.75 mg. $MgCl_2$,
4.84 mg. cystine, 10 mg. adenosinetriphosphate (ATP),
and 1 mg. of K-pantothenate previously dissolved in 3.5 ml.
of H_2O . The tissue homogenate was then distributed into
4 test-tubes and further treated as described in the text.
Coenzyme A (CoA) was detd. by the method of Hand-
schumacher *et al.* (*C.A.* 45, 5212f), in which the apoenzyme
used was pptd. from the liver of chicks instead of pigeons.
Liver, brain, kidneys, heart, and muscles were studied.
With the aid of the method of acetylation of 4-aminoazo-
benzene it was shown that the synthesis of CoA is formed
in the brain homogenate in the presence of pantothenate,
ATP, cysteine, and Mg^{++} . No synthesis of CoA was
discerned in the other tissue homogenates under similar
exptl. conditions. The combined addition of thiamine and
pyruvate to the brain homogenate enhanced the biosyn-
thesis of CoA. The individual addition of each of these re-
agents has no effect. Brain homogenates of rats having
pantothenic acid deficiency, but to which pantothenate
was added, under incubation synthesize CoA at a higher rate
than do brain homogenates of normal rats under similar
exptl. conditions. The biosynthesis of CoA in the homo-
genates of human brains with benign tumors proceeds at
a faster rate than in homogenates of human brains with
malignant tumors, where such a process may be very slow
or entirely lacking. In homogenates of brains with transi-
tional tumor types (astrocytes with dedifferentiation and
malignant changes) the biosynthesis of CoA proceeds at an
intermediate rate. The rate of synthesis of CoA in the
homogenates of the brains of guinea pigs which had been
exposed to 10 min. x-ray irradiation of 500 r. intensity is
considerably lower than in the case of non-irradiated guinea
pigs. R. S. Levine

2

15.8110

32347
S/190/62/004/001/009/020
B101/B110

AUTHORS: Korshak, V. V., Gribova, I. A., Andreyeva, M. A., Popova, G. M.

TITLE: Polymers containing phosphorus. XXVII. Heterochained polyesters of vinyl phosphinic acid with some dihydroxy compounds

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 1, 1962, 58-63

TEXT: The authors report on the properties of esters of diethylene glycol (I) and 4,4'-dihydroxy-2,2-diphenyl propane (II) with mixtures of vinyl and methyl phosphinic acids. The syntheses of these esters have already been described (Vysokomolek. soyed., 2, 427, 1960; Izv. AN SSSR, Otd. khim. n., 1958, 880). Esters with I are colorless, viscous liquids. Their freezing point drops from -39°C (100% CH_3POCl_2) to -51°C with 100% $\text{CH}_2=\text{CHPOCl}_2$ in the initial mixture. Esters with II are transparent, brittle solids soluble in dichloro ethane, chloroform, and tricresol, insoluble in ether, benzene, and dioxane. Their softening points drop from $55-56^{\circ}\text{C}$ to

Card 1/2

POPOVA, G.N., kand.med.nauk

Possibility of detecting granulomas in the palatal tonsils. Zhur.
ush., bol. 21 no.2:8-12 Mr-Apr '61. (MIRA 14:6)

1. Iz kliniki bolezney ukha, gorla i nosa (zav. - deystvitel'nyy
chlen AMN SSSR prof. B.S.Preobrazhenskiy) i fakul'tetskoy terapev-
ticheskoy kliniki (zav. - deystvitel'nyy chlen AMN SSSR prof.
A.I.Nesterov) II Moskovskogo meditsinskogo instituta.
(TONSILS—DISEASES) (TUMORS)
(RHEUMATIC FEVER)

POPOVA, G.N., kandi. med. nauk; SIMAKOVA, R.A.

Problem of the existence of specific rheumatic changes
in the palatine tonsils. Vest. oto-rin. 25 no.2:36-44
Mr-Apr '63. (MIRA 17:1)

1. Iz kafedry bolezney ukha, gorla i nosa (dir. - deyst-
vitel'nyy chlen AMN SSSR prof. B.S. Preobrazhenskiy) II
Moskovskogo meditsinskogo instituta imeni N.I. Pirogova i
laboratorii obshchey patologicheskoy anatomii (zav. -
chlen-korrespondent AMN SSSR prof. A.I. Strukov) Instituta
fiziologii.

KASHUBSKIY, L.D.; POPOVA, G.N.; BERKOVICH, D.M., nauchnyy red.;
YEVSTIGNEYEVA, V.S., tekhn. red.

[Presently manufactured Soviet equipment for industrial initial
counting and information transmission] Sredstva pervichnogo sche-
ta i peredachi informatsii v proizvodstve vypускаемые промышлен-
nost'iu SSSR; obzor. Moskva, 1961. 147 p. (MIRA 15:12)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po voprosam
truda i zarabotnoy platy. 2. Nauchno-issledovatel'skiy institut
truda Gosudarstvennogo komiteta Soveta Ministrov SSSR po vopro-
sam truda i zarabotnoy platy (for Kashubskiy, Popova).
(Automatic control) (Counting devices)

POPOVA, G.N., kand.med.nauk (Moskva)

Collagen diseases in general medicine and otorhinolaryngology.
Vest.otorin. 22 no.2:3-13 Mr-Apr '60. (MIRA 13:12)
(COLLAGEN DISEASES)
(RESPIRATORY SYSTEM diseases)

POPOVA, G.M.
DROZHZHIN, Ivan Vasil'yevich; POPOVA, G.M., otvetstvennyy redaktor;
IL'INSKAYA, G.M., tekhnicheskii redaktor; SABITOV, A., tekhnicheskii
redaktor

[Laboratory assistant in coal chemistry laboratories] Laborant
uglekhimicheskoi laboratorii. Izd. 2-oe, ispr. 1 dop. Moskva,
Ugletekhizdat, 1957. 138 p. (MLRA 10:9)
(Coal--Analysis)

А.А. Кашин
KASHIN, V.A.; POPOVA, G.N.

Mechanical properties of granular materials used for rubbers in
the cable industry. Kauch. i rez. 17 no.1:31-36 Ja '58.
(MIRA 11:2)

1.Tomskiy filial nauchno-issledovatel'skogo instituta kabel'noy
promyshlennosti.
(Rubber) (Materials--Testing)

POPOVA, G.N., kand.med.nauk; IYEVLEVA, L.F., kand.med.nauk (Moskva)

Mixed forms of rheumatism and infectious non-specific poly-
arthritis; on so-called rheumatic angina. Klin.med. 38 no.8:
133-137 Ag '60. (MIRA 13:11)
(ARTHRITIS, RHEUMATOID) (TONSILS--DISEASES) (RHEUMATIC FEVER)

POPOVA, G.N., kand.med.nauk; BRONZOV, I.A. (Moskva)

Late results of rheumatic fever and the effect of chronic
tonsillitis on the course of the rheumatic process. Klin.med. 36
no.3:112-118 Mr '58. (MIRA 11:4)

1. Iz terapevticheskoy fakul'tetskoy kliniki (dir. - deystvitel'nyy
chlen AMN SSSR prof. A.I.Nesterov) II Moskovskogo meditsinskogo
instituta, Instituta terapii AMN SSSR (dir. - deystvitel'nyy
chlen AMN SSSR prof. A.L.Myasnikov) i kliniki bolezney ukha, nosa
i gorla (dir. - deystvitel'nyy chlen AMN SSSR prof. B.S.Preobrazhen-
skiy) II Moskovskogo meditsinskogo instituta.

(RHEUMATISM, compl.

chronic tonsillitis, eff. of tonsillectomy (Rus))

(TOSILLITIS, compl.

rheumatism, eff. of tonsillectomy (Rus))

POPOVA G. N.

EXCERPTA MEDICA Sec 6 Vol 12/5 Internal Med. May 59

2350. LONG-TERM RESULTS IN RHEUMATIC CASES AND INFLUENCE OF CHRONIC TONSILLITIS ON RHEUMATIC DISEASE (Russian text) - Popova G. N. and Bronzov I. A. - KLIN. MED. (Mosk.) 1958, 36/3 (112-118) Tables 4

The effect of chronic tonsillitis on relapses of rheumatic disease and their cardiac complications was examined in 340 patients (aged 12-30 yr., 221 female), observed for 1-10 yr. periods (average 3.4 yr.). Among those with chronic tonsillitis the number of patients who had a 2nd attack of rheumatic disease was 2.5 times that among the patients without this complication. This ratio was 3 when the numbers for secondary heart complications were compared in the 2 groups. Tonsillectomy, if carefully and radically performed, could prevent a very great number of the relapses. (VI, 11, 19)

Popova, G. N.

AUTHORS: Kashin, V. A., Popova, G. N. 138-1-10/16
TITLE: Mechanical Properties of Free Flowing Material Used
for Rubbers for the Cable Industry. (Mekhanicheskiye
svoystva sypuchikh materialov, primenyayemykh dlya
rezin kabel'noy promyshlennosti).
PERIODICAL: Kauchuk i Rezina, Nr. 1. pp. 31 - 36. (USSR).
ABSTRACT: During the preparation of rubber mixtures, and es-
pecially during the planning of semi-automatic produc-
tion lines, it is necessary to know the specific weight,
the angles of inclination and other properties of the
starting materials. Literature data (shown in Table 1)
are not specific enough to be applied during the manu-
facture of cables. The authors determined the specific
weights and coefficients of consolidation of a number
of materials. For some of the materials the minimum
pour angles and free formation in the undisturbed phase
and during vibration were determined. The specific
weight of the granules was determined in a 500 cm³
cylinder, and the specific weight of the synthetic
rubber mixtures and bituminous lacquers in a 1.0 litre
measuring jar. Results of measurements on materials
with up to 0.5% moisture content, after passing

Card 1/3

15901-10/13

Mechanical Properties of Free Flowing Material Used for Rubbers for the Cable Industry.

There are 3 Figures, 5 Tables and 5 Russian References.

ASSOCIATION: Tomsk Branch of the Research Institute for the Cable Industry. (Tomskiy filial nauchno-issledovatel'skogo instituta kabel'noy promyshlennosti).

AVAILABLE: Library of Congress.

Card 3/3

g. 10, 11
PAKHALOK, Ivan Filippovich; BOLDYREV, Vasilii Andreyevich; POPOVA, G.M.,
otvetstvennyy redaktor; ZAZUL'SKAYA, V.F., tekhnicheskiiy redaktor;
KOROVENKOVA, Z.A., tekhnicheskiiy redaktor

[Briquetting coal] Briketirovanie uglei. Moskva, Ugeltekhizdat,
1957. 179 p. (MIRA 10:11)
(Briquets (Fuel))

LIBURKIN, A.L., otvetstvennyy redaktor: ~~POPOVA, G.N.~~ redaktor izdatel'stva;
ALADOVA, Ye.I., tekhnicheskii redaktor.

[Centrifugal enrichment of coal] TSentrobeshnoe obogashchenie uгля.
Moskva, Ugletekhizdat, 1956. 22 p. (MLRA 10: '6)

1. Gosudarstvennyy proyektno-konstruktorskiy institut "Giprougle-
obogashcheniye."
(Coal preparation)

POPOVA, G. N.

POPOVA, G.N., kandidat meditsinskikh nauk (Moskva)

Tonsillectomy in chronic tonsillitis and rheumatism. Klin.med. 35
no.5:107-112 My '57. (MLRA 10:8)

1. Iz Instituta terapii AMN SSSR (dir. - deystvitel'nyy chlen
AMN SSSR prof. A.L.Myasnikov) i fakul'tetskoy terapevticheskoy
kliniki (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I.Nesterov)
II Moskovskogo meditsinskogo instituta imeni I.V.Stalina

(RHEUMATISM, surg.

tonsillectomy, follow-up)

(TONSILS, surg.

in chronic tonsillitis & rheumatism, follow-up)

POPOVA, G. N.

"The Characteristics of the Preventive, Clinical, and Surgical Treatment for Mastoiditis in Senile Patients." Cand Med Sci, Acad of Medical Sci USSR, 13 Oct 54. (VM, 4 Oct 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55

27126-66 EWT(1)/T JK

ACC NR: AF6017124

SOURCE CODE: UR/0297/65/010/008/0701/0706

AUTHOR: Givental', N. I.,—Givental, N.I.; Ushakov, S. N. (Deceased); Panarin, Ye. F.—Panarin, E. F.; Popova, G.O.

44
B

ORG: Department of Microbiology of the Central Institute for the Advanced Training of Physicians (Kafedra mikrobiologii Tsentral'nogo instituta usovershenstvovaniya vrachey); Institute of High-Molecular Compounds, AN SSSR, Moscow (Institut vysokomolekulyarnykh soedineniy AN SSSR)

TITLE: Experimental study of polymeria derivatives of penicillin

SOURCE: Antibiotiki, v. 10, no. 8, 1965, 701-706

TOPIC TAGS: penicillin, organic amide, polymer, rat, mouse, nonmetallic organic derivative, bacteria

ABSTRACT: Penicillin activity of polymeric derivatives of penicillin G and V can be determined both by the method of diffusion and that of agar, as well as by the series dilution method, using the test microbe Staph. aureus-209 P. Data obtained from biological titration are in agreement with the results of iodometric titration. Polymeric amides of penicillin G and V subjected to biological titration immediately after being dissolved in water yield strongly reduced penicillin activity values, differing sharply from the data of iodometric titration and from the original penicillin concentration in polymeric amides. Stability of aqueous solutions of polymeric salts of penicillin G

2

Card 1/2

UDC: 615.779.931-092

L 27126-66

ACC NR: AP6017124

and V does not differ from the stability of aqueous solutions of the corresponding crystalline salts of penicillin G and V when stored under refrigerator conditions or at room temperature. When intramuscularly administered to rats, polymeric salts of penicillin G are marked by higher (compared to the potassium salts) penicillin concentrations in the blood and organs during the first hours following administration. The acute toxicity of the polymeric salt of benzyl penicillin of series 78 (molecular weight 18,000) for mice when given intravenously proved to be (when recalculated on a penicillin basis of activity) 140% higher than for the potassium salt of penicillin. Orig. art. has: 2 tables.

[JPRS]

SUB CODE: 07, 06 / SUBM DATE: 26Jan65 / ORIG REF: 008 / OTH REF: 002

Card

2/2 IV

POPOVA, G.O.

Study of the effect of penbritin in experimental typhoid
fever infection. Trudy TSIU 80:106-108 '65.
(MIRA 18:11)

KOKHANOVSKAYA, T.M.; POPOVA, G.O.; ULISKO, I.N.

Sensitivity of freshly-isolated strains of typhoid bacilli to various antibiotics and their combinations. Antibiotiki 6 no.9: 73-79 S '61. (MIRA 15:2)

1. Kafedra mikrobiologii (zaveduyushchiy - chlen-korrespondent AMN SSSR prof. Z.V.Yermol'yeva) TSentral'nogo instituta usovershenstvovaniya vrachey i Moskovskaya gorodskaya sanitarno-epidemiologicheskaya stantsiya (glavnyy vrach M.S.Sokolovskiy).
(EBERTHELLA TYPHOSA) (ANTIBIOTICS)

KOKHANOVSKAYA, T.M.; DZHAUMANBAYEVA, A.A.; POPOVA, G.O.

Characteristics of the distribution of antibiotics in the organs
and tissues of chicken embryos. Antibiotiki 8 no.9:816-821 S '63.

(MIRA 17:11)

1. Kafedra mikrobiologii (zav. - chlen-korrespondent AMN SSSR prof.
Z.V. Yermol'yeva) Tsentral'nogo instituta usovershenstvovaniya
vrachey.

KOKHANOVSKAYA, T.M.; POPOVA, G.O.

Antibiograms of typhoid fever bacilli. Report No.4: Combined action of antibiotics on freshly isolated typhoid fever bacillus strains. Zhur. mikrobiol., epid. i immun. 40 no.11:96-101 N '63.

(MIRA 17:12)

1. Iz 'Sentral'nogo instituta usovershenstvovaniya vrachey.

POPOVA, G.O.

Reproduction of typhoid fever infection in the lower monkeys of the
rhesus macaque type. Trudy TSIu 68:93-97 '64. (MIRA 18:5)

GIVENTAL', N.I.; USHAKOV, S.N. [deceased]; PANARIN, Ye.F.; POPOVA, G.O.

Experimental study of polymeric derivatives of penicillin.
Antibiotiki 10 no.3:701-706 Ag '65. (MIRA 18:9)

1. Kafedra mikrobiologii Tsentral'nogo instituta usovershenstvovaniya
vrachey i Institut vysokomolekulyarnykh soyedineniy AN SSSR, Moskva.

KOKHANOVSKAYA, T.M.; POPOVA, G.O.

Antibiotic charts for typhoid fever bacteria. Report No. 1:
Antibacterial activity of various antibiotics in relation to freshly
isolated typhoid cultures. Zhur. mikrobiol., epid. i immun. 40 no.
8:86-90 Ag '63. (MIRA 17:9)

1. Iz TSentral'nogo instituta usovershenstvovaniya vrachey.

KOKHANOVSKAYA, T.M.; POPOVA, G.O.; DZHUMANBAYEVA, A.A.

Dynamics of the concentration of antibiotics in chicken embryos.
Antibiotiki 8 no.10:934-939 O '63.

(MIRA 17:10)

1. Kafedra mikrobiologii (zav. - chlen-korrespondent AMN SSSR
prof. Z.V. Yermol'yeva) TSentral'nogo instituta usovershenstvovaniya
vrachey.

L 34495-65 EWT(1)/EWA(h) Feb IJP(c)

ACCESSION NR: AP5007374

S/0286/65/000/004/0035/0036

AUTHOR: Popova, G. P.

TITLE: Low-frequency transistor amplifier. ²⁵ Class 21, No. 168331

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 35-36

TOPIC TAGS: 1f transistor amplifier, emitter follower, transistor amplifier

ABSTRACT: The proposed 1f transistor amplifier utilizes direct interstage couplings. The input of each stage contains an emitter follower whose base is connected through a resistor to the load of a second emitter follower located at the output of the preceding stage. To improve operational stability, the amplifier contains buffer stages with common-base transistors. The collectors of the transistors are connected to the bases of the emitter followers at the inputs of the amplifying stages. (See Fig. 1 of Enclosure.) Orig. art. has: 1 figure. [DW]

ASSOCIATION: none

SUBMITTED: 10Sep63

ENCL: 01

SUB CODE: EC

NO REF SOV: 000

OTHER: 000

ATD PRESS: 3213

Card 1/1

SULTANOVA, G.F., kand.med.nauk; SOGRINA, K.A., kand.med.nauk; POPOVA,
G.P., vrach

Dynamics of the content of 17-ketosteroids in the urine in the
compound treatment of acute leukoses in children. Vop.okh.
mat.i det. 7 no.9:24-27 S '62. (MIRA 15:12)

1. Iz pediatricheskogo otdela (rukovoditel' - dotsent R.Ye.
Leyenson) Nauchno-issledovatel'skogo instituta okhrany
materinstva i mladenchestva ministerstva zdravookhraneniya
RSFSR (dir. - kand. med.nauk R.A.Malyшева).
(LEUKEMIA)(OSTEROIDS)

POPOVA, G. [P.]

"Conferences of Medical Nurses Held in a Psychopathic Hospital," Med. Sestra., No. 4,
1949. Sr. Physician; opathic Hosp. im. Kashchenko. -cl949-.

POPOVA, G.P.

25308 POPOVA, G.P. Klinika i Psikhopatologiya Pozdnego Perioda Zakryton
Cherepno-Mozgovoy Travmy. Sootshch. Z. Stornik Nauch. Rabot Psikhiatr.
Bol'nitsy E. Kashchenko, No. 6, 1949, S. 19-36

SO: Letopis' NO. 33, 1949

S/048/62/026/010/013/013
B117/B186

AUTHORS: Chulanovskiy, V. M., Gol'denberg, A. L., Pirozhnaya, L. N.,
Popova, G. S., Tarutina, L. I., and Fratkina, G. P.

TITLE: Spectral examination of the aging processes of polymers

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,
v. 26, no. 10, 1962, 1316-1317

TEXT: Infrared spectroscopy was examined for its applicability to investigating the aging and stabilization of polymers (e.g., high-density and low-density polyethylene, ethylene - propylene copolymer, fluorine polymers, PVC, polyvinyl alcohol and its acetals, copolymers on the basis of styrene). Conclusions: For the purpose of investigating the oxidation of polymers, infrared spectroscopy is more suitable than chemical analysis as it can be used to determine carbonyl groups in various types of compounds (e.g., in acids, aldehydes, ketones, and ether compounds), to establish the point of saturation of OH and CO groups, to observe the decomposition of the main groups, and to analyze the products of decomposition. Results of work in this field will be published later.

Card 1/1

ПОПОВА, С.С.

Leningrad. University

PAGE 1 BOOK INFORMATION 50/511

Molekularnaya spektroskopiya (Molecular Spectroscopy) [Leningrad] Izd-vo Leningr. univ., 1960. 190 p. 4,700 copies printed.

Red. Ed.: P. I. Sharyov; Eds.: Ye. V. Shchegoleva and V. D. Plavtsov; Tech. Ed.: S. A. Yodolagina.

PURPOSE: This collection of articles is intended for scientific workers, instructors and students of physics and chemistry. It may also be used by engineers and technicians employing molecular spectroscopy.

CONTENTS: The collection of articles describes spectroscopic studies of liquids and solutions, and includes data on applied molecular spectroscopy. Individual articles deal with the molecular interaction in solutions, and specifically with the hydrogen bond problem. Works on the optimum utilization of spectral apparatus and on the analytical application of molecular spectroscopy are also included.

Aspects of the structure of high and low molecular compounds and of molecular complexes are also covered. The collection was published in honor of the 70th birthday of Professor Vladimir Mikhailovich Chulanovskiy, Soviet specialist in molecular spectroscopy and spectral analysis. There are no references.

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24(7),7(3),5(4)

AUTHORS: Pirozhnaya, L. N., Popova, G. S.

SOV/48-23-10-12/39

TITLE: The Application of Infrared Spectroscopy for the Investigation of Thermal Aging of Polyvinyl Chloride

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 10, pp 1202-1204 (USSR)

ABSTRACT: The aging of polyvinyl chloride (PVC) has already been treated by numerous articles in the course of the last ten years. It was determined chemically that in the course of this aging process HCl is split off. The absorption spectra in the ultraviolet and in the visible regions serve for the control of the aging rate of PVC; by means of infrared spectra the C=O- and the O-H-groups were determined in PVC. The present paper gives some data concerning the aging of PVC, which was found by means of infrared spectroscopic methods. The investigations were carried out within the range of $1500 - 1800 \text{ cm}^{-1}$, which is especially suited for this purpose because in this range PVC has no absorption, so that the bands of the aging products (two bands with maxima at 1610 and 1720 cm^{-1}) occur alone (Fig 1). The former is usually attributed to conjugate C=C groups. A PVC aged at 185° in air also has bands

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The Application of Infrared Spectroscopy for the
Investigation of Thermal Aging of Polyvinyl Chloride

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at $700 - 900 \text{ cm}^{-1}$, which are attributed to aromatic compounds. It is known from publications that the C=O groups absorb within the range of $1650 - 1800 \text{ cm}^{-1}$. In PVC aged under various conditions absorption bands were found within this range with the frequencies $1680, 1700, 1720, 1735$ and 1765 cm^{-1} . These frequencies are (according to publications), in the case of oxygen containing hydrocarbon derivatives, attributed to the C=O-groups conjugate with C=C-and C=O-groups in acids, ketones, aldehydes, in vinyl esters and anhydrides. The content of these groups as well as of C=C-groups in PVC depends on the temperature and the duration of the aging process. The agings carried out at 185° (duration 17, 30 and 50 hours) show that with increasing duration, the intensity of the bands with 1775 and 1610 cm^{-1} increases compared to the 1720 cm^{-1} -band. Figure 2 shows the dependence of the infrared spectra on the aging temperature. With increasing temperature the absorption maximum of the C=O groups is shifted towards lower frequencies, the 1610 cm^{-1} -band becomes

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The Application of Infrared Spectroscopy for the
Investigation of Thermal Aging of Polyvinyl Chloride

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more intense, and the 1765 cm^{-1} -band becomes weaker. Further details are discussed and a number of data is given. Figure 3 shows three PVC spectra obtained under totally different aging conditions. The authors finally thank V.M. Chulanovskiy for advice and discussions. There are 3 figures and 3 references.

Card 3/3

BROYTMAN, A.Ya.; LAZAREVA, N.P.; OBOL'YANINOVA, N.A.; POPOVA, G.S.

Relation between the structure, stabilizing action, and toxicity of the
condensation products of phenol with styrene. Plast.massy no.4:19-22
'63. (MIRA 16:14)

(Phenol condensation products)

(Styrene)

LAZAREVA, N.P.; OBOL'YANINOVA, N.A.; POPOVA, G.S.

Stabilizing effect of alkyl- and arylalkyl phenols. Plast.massy no.4:
44-46 '63. (MIRA 16:4)
(Polyethylene) (Phenols)

CHULANOVSKIY, V.M.; GOL'DENBERG, A.L.; PIROZHNAYA, L.N.; POPOVA, G.S.;
TARUTINA, L.I.; FRATKINA, G.P.

Spectral investigation of polymer aging process. Izv. AN SSSR.Ser.
fiz. 26 no.10:1316-1317 '62. (MIRA 15:10)
(Polymers—Spectra)

POPOVA, G.S.

S/191/63/000/004/009/015
B101/B186

AUTHORS: Lazareva, N. P., Obol'yaninova, N. A., Popova, G. S.
TITLE: Study of the stabilizing effect due to alkyl and aryl-alkyl phenols
PERIODICAL: Plasticheskiye massy, no. 4, 1963, 44 - 46

TEXT: Alkyl derivatives of p-cresol were synthesized by alkylation of p-cresol with aliphatic alcohols in the presence of orthophosphoric acid as catalyst. Aryl-alkyl phenols were synthesized by reaction between phenols and styrene in the presence of sulfuric acid. The stabilizing effect of a 0.5% addition of these compounds on the ageing of high-density polyethylene was studied by rolling at 140°C and by determining the elongation E, %, and $\tan \delta$ at 10^6 cps. The initial data for polyethylene were E = 478%, $\tan \delta$ = 0.0009. After a rolling test of 4 hrs the data for E and $\tan \delta$ were as follows: without additive 98, 0.0107; with 2-n-butyl-p-cresol 250, -; n-nonyl-p-cresol 165, -; 2-tert-butyl-p-cresol 207, 0.0018; 1-(α -phenyl-ethyl)-p-cresol 344, -; 2,6-di-tert-butyl-p-cresol (ionol) 332, 0.0029; 2-(α -phenyl-ethyl)-6-n-butyl-p-cresol 346, 0.0007; 2-(α -phenyl-ethyl)-6-

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S/191/63/000/004/009/015
3101/B186

Study of the stabilizing effect...

tert-butyl-p-cresol 458, 0.0013; 150 - 188°C/3 mm Hg fraction of the reaction between phenol and styrene 400, 0.0015; 220 - 230°C/3 mm Hg fraction 410, 0.0015; 244 - 250°C/3 mm Hg fraction 438, 0.0015; 260 - 280°C/3 mm Hg fraction 446, 0.0014; dicresylol propane 500, 0.0006; 2,2-bis-(4-methyl-6-tert-butyl phenyl)-methane 452, 0.0006; conversion product of dicresylol propane 390, 0.0008. The phenyl-ethyl group in ortho position was found to have a highly stabilizing effect. The formation of an intramolecular H bond between the hydroxyl group and the π electrons of the benzene ring were assumed to cause the stabilizing effect, since compounds containing this group show a 3530 - 3550 cm^{-1} band in the IR spectrum. The occurrence of a 3500 cm^{-1} band in dicresylol propane heated to 140 - 150°C also suggests a structural change and formation of an intramolecular H bond which explains the stabilizing effect of this compound. There are 3 figures and 2 tables.

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24(7),7(3),5(4)

AUTHORS: Popova, G. S., Shuvalova, Ye. V.

SOV/48-23-10-13/39

TITLE: Comparative Investigation of Photo- and Thermal Aging of the Acetals of Polyvinyl Alcohol by the Method of Infrared Spectroscopy

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 10, pp 1205-1207 (USSR)

ABSTRACT: By using a spectrometer of the type IKS-11 with NaCl- and LiF-prisms the effects produced by aging upon infrared absorption spectra were investigated and the conclusions to be drawn from the variations were discussed. In the introduction several results obtained by the investigations carried out by other authors in this connection are given. Photo-aging (irradiation by means of a PRK-2-lamp) and thermal aging (at 150°) was investigated on polyvinyl ethylal and polyvinyl butyral. Both kinds of aging in both polymers cause a decrease of the content in OH-, CH-, C-O-groups and an increase in C=O groups; the intensities of the bands 3300 - 3600, 2800 - 3000, 1300 - 1500 and 1100 - 1200 cm⁻¹

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decrease, and that of the band with 1730 cm⁻¹ increases. Further

Comparative Investigation of Photo- and Thermal
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variations occurring in the spectra of the simultaneously aged polyvinyl ethylal samples are discussed, which are the same for both kinds of aging. Differences are found in the investigation of the kinetics of the formation and decay of functional groups as well as in the investigation of the behavior of absorption bands of the OH groups. Figure 1 shows the absorption spectra of polyvinyl butyral within the range of $900 - 3700 \text{ cm}^{-1}$, both of the original sample and of that aged under various conditions. Figure 2 shows the variation with respect to time of polyvinyl butyral band intensities in the case of photo- (solid curve) and in thermal aging (dotted line) for the infrared absorption of the OH groups, the C=O groups, and the C-O groups.

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Only the curve of the time dependence of the intensity of C=O bands (in photo-aging) has a marked maximum. The relations seen from the diagrams are briefly discussed. The authors finally thank V. M. Chulanovskiy for his interest in the investigation and for invaluable advice. There are 2 figures and 4 references, 2 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass
(Scientific Research Institute for Polymerized Plastics)

Card 3/3

YUSUFOV, A.G.; POPOVA, G.S.; BALIYEVA, M.A.

Effect of a presowing treatment of seeds with trace elements on
corn yields. Dokl. AN Azerb. SSR 17 no.8:733-736 '61.
(MIRA 14:10)

1. Otdel fiziologii rasteniy Dagestanskogo nauchno-issledovatel'sko-
go instituta sel'skogo khozyaystva. Predstavleno akademikom
AN Azerbaydzhanskoy SSR V.R. Volobuyevym.
(Corn(Maize))
(Trace elements)

ODING, Ivan Avgustovich; IVANOVA, Vera Semenovna; BURDUKSKIY, Vladislav Vasil'yevich; GEMINOV, Vladimir Nikolayevich; POPOVA, G.V., red.; BERLIN, Ye.N., red.izd-va; VAYNSHTAYN, Ye.B., tekhn.red.

[Theory of creep and durability of metals] Teoriia polzuchesti i dlitel'noi prochnosti metallov. Pod red. I.A.Odinga. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii. 1959. 488 p. (MIRA 12:8)

1. Chlen-korrespondent AN SSSR (for Oding).
(Creep of metals) (Metals--Fatigue)

VIKTOROVA, Ye.A.; SHUYKIN, N.I.; POPOVA, G.V.

Contact catalytic conversions of phenols. Part 5: Alkylation of
~~m~~-cresol by piperylene. Vest. Mosk. un. Ser. 2: Khim. 15 no. 6:
62-65 N-D '60. (MFA 14:2)

1. Kafedra khimii nefi Moskovskogo universiteta.
(Cresol) (Piperylene)

KULIKOVSKIY, L.F.; KARPOV, Ye.M.; POPOVA, G.V.; BRAZHNIKOV, V.A.

Drilling footage recorder. Izv. vys. ucheb. zav.; neft' i gaz. 8
no.4:91-94 '65. (MIRA 18:5)

1. Kuybyshevskiy politekhnicheskij institut im. V.V.Kuybysheva.

POGODIN-ALEKSEYEV, G.I., prof., doktor tekhn.nauk, red.; POPOVA, G.V.,
red.; NAUMOV, K.M., tekhn.red.

[Achievements in science and technology and the progressive
practices of industry and construction] Dostizhenia nauki i
tekhniki i peredovoi opyt v promyshlennosti i stroitel'stve.
Moskva, Izd-vo VPSH i AON pri TsK KPSS. No.2. [Ferrous and
nonferrous metallurgy] Chernaia i tsvetnaia metallurgiya.
1958. 157 p. (MIRA 13:6)
(Metallurgical plants--Equipment and supplies)
(Nonferrous metals--Metallurgy)

POGODIN-ALEKSEYEV, Georgiy Ivanovich, prof.. doktor tekhn.nauk;
POPOVA, G.V., red.; NAUMOV, K.M., tekhn.red.

[Basic branches of the national economy. Directives of the party and government concerning technical progress in the fuel, mining, and metallurgical industries; introductory lecture] Osnovnye otrasli narodnogo khoziaistva. Direktivy partii i pravitel'stva po tekhnicheskomu progressu v toplivnoi rudnoi i metallurgicheskoi promyshlennosti. Moskva, Izd-vo VPSH i AON pri TSK KPSS, 1958. 58p. (Dostizhenia nauki tekhniki i peredovoi opyt v promyshlennosti i stroitel'stve, no.1) (MIRA 12:12)

(Russia--Industries)

BARDIN, I.P., akademik, red.; POPOVA, G.V., red.; ISLENT'YEVA, P.G.,
tekhn.red.

[Metallurgy of the U.S.S.R.] Metallurgiya SSSR (1917-1957).
Pod red. I.P.Bardina. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry
po chernoi i tsvetnoi metallurgii. Vol.2. 1959. 813 p.
(MIRA 12:5)

1. Moscow. Vsesoyuznyy institut nauchnoy i tekhnicheskoy informatsii.
2. Institut metallurgii im. A.A.Baykova AN SSSR (for Bardin).
(Metallurgy)

BARDIN, I.P., akademik, red.; RIKMAN, V.V., kand.ekon.nauk, red.;
RABINOVICH, A.M., inzh., red.; POPOVA, G.V., inzh., red.;
BEKKER, O.G., tekhn.red.

[Metallurgy of the U.S.S.R., 1917-1957] Metallurgiya SSSR
(1917-1957). Pod red. I.P. Bardina. Moskva, Gos. nauchno-
tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii. Vol.1.
1958. 747 p. (MIRA 12:1)

1. Moscow. Vsesoyuznyy institut nauchnoy i tekhnicheskoy infor-
matsii. 2. Institut metallurgii im. A.A. Baykova AN SSSR (for
Bardin, Rikman).

(Metallurgy)

POGODIN-ALEKSEYEV, Georgiy Ivanovich, prof., doktor tekhn.nauk; POPOVA, G.V.,
red.; NAUMOV, K.M., tekhn.red.

[Achievements due to science, technology, and progressive practices
in industry and construction work] Dostizheniia nauki i tekhniki i
peredovoi opyt v promyshlennosti i stroitel'stve. No.1 [Introductory
lecture] Vvodnaia lektsiia. Moskva, Izd-vo VPSH i AON pri TsK KPSS.
1958. 58 p. (MIRA 12:2)
(Russia--Industries) (Russia--Economic policy)

L 06443-67 EWT(1)/EWT(m)/EWP(j)/EWP(t)/ETI IJP(c) JD/AT/RM
ACC NR: AP6026723 SOURCE CODE: UR/0181/66/008/008/2502/2504

AUTHOR: Eatavin, V. V.; Popova, G. V.; Eatavina, L. A.

ORG: none

TITLE: Effect of oxygen in silicon on the luminescence of p-n junctions

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2502-2504

TOPIC TAGS: pn junction, luminescence, silicon dioxide

ABSTRACT: It has been postulated by other authors that the main source of microplasmas in silicon and germanium p-n junctions are SiO₂ complexes formed as a result of deposition of excess oxygen on dislocations or other structural imperfections. The present work deals with an experimental study of the role of these complexes in the generation of microplasmic breakdown of silicon p-n junctions. p-n Junctions 0.5-0.6μ deep were prepared on silicon samples (subjected to heat treatment of different durations at 1050°C) by diffusion of boron. Luminescence was recorded only on p-n junctions heat-treated for more than 7 hr. As the heat treatment time became longer, the size and brightness of the microplasmas increased and their density diminished according to the law $N \sim t^{-1/2}$. On the average, the maximum density of the microplasmas was $4 \times 10^4 \text{ cm}^{-2}$. Since the density of the observed defects is higher than this value, not every SiO₂ particle causes the appearance of a microplasma. It is postulated that if the average distance between the particles considerably exceeds the depth of the

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ACC NR: AP6026723

space charge of the p-n junction (equal to 1-2 μ in the case under consideration), the growth of the particles will cause a decrease in the density of microplasmas in accordance with the law governing the change of the geometrical dimensions of the particles. In the case of a diffusion mechanism of deposition, the length of the particles increases in proportion to $t^{1/2}$, which explains the relationship observed. Authors thank Yu. A. Kontsev for a steady interest in the work and for discussing the experimental data. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 28Feb66/ OTH REF: 003

Card 2/2 *plw*

POPOVA, G.Z.

Relief of the northeastern part of central Kazakhstan peneplain.
Trudy Otd. geog. AN Kazakh. SSR no.7:35-58 '60. (MIRA 13:12)
(Kazakhstan—Physical geography)

KUZNETSOVA, Zoya Vladimirovna; KURITSYN, Igor' Ivanovich; OSORGIN, A.V., retsenzent; NAZARENKO, I.M., retsenzent; GLADYSHEVA, Ye.N., otv. red.; POPOVA, G.Z., otv. red.; KOROTKOVA, Ye.A., red.; ALFEROVA, P.F., tekhn. red.

[Semipalatinsk Province; economic and geographical features]
Semipalatinskaya oblast'; ekonomiko-geograficheskaya kharakteristika. Alma-Ata, Izd-vo AN KazSSR, 1961. 213 p.

(MIRA 15:7)

(Semipalatinsk Province--Economic geography)

POPOVA, G.Z.

Recent tectonics in the Tuyuk-Su moraine: of the trans-Ili Ala-Tau.
Trudy Otd. geog. AN Kazakh. SSR no.8:205-209 '61. (MIRA 14:2)
(Malaya Almaatinka Valley—Moraines) (Geology, Structural)

POPOVA, G.Z.

Morphostructural analysis of central Kazakhstan. Trudy Otd. geog.
AN Kazakh. SSR no.10:87-96 '63. (MIRA 16:10)

POPOVA, G.Z.

Role of jointing in the relief formation of the Akbastau River
basin in central Kazakhstan. Trudy Otd. geog. AN Kazakh. SSR
no.8:210-213 '61. (MIRA 14:8)
(Akbastau Valley--Joints (Geology))

POPOVA, G.Z.

Geomorphology of the Air Massif in central Kazakhstan.
Trudy Sekt.geog.AN Kazakh. S.S.R. no.6:205-208 '60.
(MIRA 13:7)
(Air Massif (Kazakhstan)--Geology, Structural)

POPOVA, G.Z.

Main features of the nature of the Karaganda coal basin. Trudy
Sekt.geog.AN Kazakh.SSR no.4:97-112 '59.

(MIRA 13:4)

(Karaganda Basin--Physical geography)

POPOVA, G.Z.

Type of erosion system of the Zharly River Delta. Trudy
Sekt.geog. AN Kazakh. SSR no.5:214-215 '59.
(MIRA 13:4)

(Zharly Valley--Erosion)

POPOVA, G.Z.

Special relief features of the Dyn Mountain in central
Kazakhstan. Trudy Sekt.geog. AN Kazakh. SSR no.5:216-217
'59. (MIRA 13:4)
(Dyn Mountain (Ashchisu Valley)--Geology, Structural)

POPOVA, G.Z.

Main orographical features of the Bayan-Aul intrusive in
central Kazakhstan. Trudy Sekst.geog.AN Kazakh. S.S.R.
no.6:209-212 '60. (MIRA 13:7)
(Bayan-Aul region--Mountains)

POPOVA, G.Z.

Geomorphological features of the Pskem River Basin in northwestern
Tien Shan. Vop.geog.Kazakh. no.1:3-67 '56. (MLBA 9:11)
(Pskem Valley--Physical geography)

POPOVA, G.Z.

Geomorphology of the volcanoes of shalair and the Karaganda Hills in
central Kazakhstan. Vop.geog.Kazakh. no.1:144-152 '56.(ML2A 9:11)
(Kazakhstan--Physical geography)

POPOVA, I.

Economic cooperation of Ceylon with socialist countries. Vnesh.
torg. 43 no.3:8-10 '63. (MIRA 16:4)
(Ceylon--Foreign economic relations--Communist countries)
(Communist countries--Foreign economic relations--Ceylon)

POPOVA, IAnka, uzhitelka (gr. Burgas)

Methodic elaboration of the lesson on aluminua. Biol
i khim 7 no.5:35-37 '64.

POPOVA, I.

New forms of phosphate fertilizer for cotton grown on pale, salty, gray desert soil. I. Popova (All-Union Cotton Sci. Research Inst., Agr.-Chem. Lab., Pakhta-Aral.). *Khlopkovodstvo* 4, No. 10, 34-8(1954).—Dicalcium phosphate dihydrate (I) and ammoniacal superphosphate are shown to be most effective fertilizers when plowed in before planting cotton seeds; double superphosphate and ammonium phosphate (II) are also good. II is recommended for fertilizing during the vegetation period. Use of I and II, 2.2-3.5 times more concd. than superphosphates, led to considerable economy in transportation. Elisabeth Narabash

USSR/Cultivated Plants - Commercial. Oil-Bearing. Sugar-Bearing. M-5

Abs Jour : Ref Zhur- Biol., No 7, 1958, 29877

Author : Kulikov, V., Paradiyev, A., Poderyagin, G., Li, A.,
Popova, I.

Inst :
Title : Side-Dressing Cotton Plants with Liquid Nitrogen Fertilizers.

Orig Pub : Khlopkovodstvo, 1957, No 5, 19-24.

Abstract : Field tests made in 1956 by the Pakhta-Aral'skaya Experimental Station in the Sovkhoz "Pakhta-Aral" in South Kazakhstanskaya Oblast' to study the effect of side dressing cotton plants with liquid ammonia (82.3% N) and ammoniate A (36% N) have shown that their effect was equal to that of NH_4NO_3 . The depth of placement of the liquid fertilizers should not be less than 18-20 cm. The expenditure of labor when using liquid fertilizer is almost cut in half. With machines being created to apply these

Card 1/2

POPOVA, I.

"Method for Determining Gross Product of USSR Agriculture," Sotsial. Sel'sk.
Khoz., No.6, 1955

Translation M-1025, 28 Mar 56

10 1210 also 005, 021, 002

S/043/61/000/003/006/008
D201/D305

AUTHOR: Popova, I.A.

TITLE: Influence of vorticity in supersonic flow past
developable airfoils

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya matematiki,
mekhaniki i astronomii, no. 3, 1961, 131-145

TEXT: The corrections to the hydrodynamic parameters due to vorticity are found. The corresponding boundary-value problem reduces to Cauchy's characteristic problem for a wave equation with three independent variables which is then solved by Volterra's method. As the developable surfaces include cylindrical surfaces, the solution of the problem is a generalization of A.Ye. Donovan's results; (Ref. 3: Ploskoye krylo s ostrymi kromkami v sverkhvukovom potoke gaza. Izv. AN SSSR, ser. matemat., no. 3, 603-629, 1939). Two problems are simultaneously considered: 1) The construction of the depression (cavity) flow past the developable surface (generalized Prandtl-Meyer flow) with such values of the hydrodynamic para-

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meters on the first characteristic as are found behind the leading-edge discontinuity; II) The ordinary flow problem past a developable airfoil with leading-edge discontinuity. It was shown by the author that the solution of problem I) is also a solution of problem II) in the first 3 approximations, (Ref. 1: Priblizhennoye analiticheskoye resheniye bezvikhrevykh uravneniy sverkhzvukovogo obtekaniya razvertyvayushchikhsya kryl'ev. Vestnik Lening. un-ta, no. 7, 1961). If problem I) is described by partial differential equations for fourth-order corrections, then in the fourth approximation the right-hand side terms will consist of solutions in the first three approximations which are already known and depend on the variable t only. The boundary conditions for the vorticity terms are obtained by dividing the fourth-order correction terms into two groups, one for conditions on the discontinuity surface and the other for the airfoil surface. Hence in the fourth approximation the dimensionless hydrodynamic parameters are:

$$\begin{aligned} \lambda_x &= 1 + \sum_{n=1}^4 \lambda_x^{(n)}; \lambda_y = \sum_{n=1}^4 \lambda_y^{(n)}; \lambda_z = \sum_{n=1}^4 \lambda_z^{(n)}; \\ \Pi &= \Pi_0 + \sum_{n=1}^4 \Pi^{(n)}; w = 1 + \sum_{n=1}^4 w^{(n)}; \end{aligned} \quad (1.1)$$

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$$\Pi_0 = \frac{1}{\kappa M_0^2}; \Pi = \frac{p}{\rho V_0^2}; \omega = \frac{p}{\rho_0}; \lambda_x = \frac{V_x}{V_0}; \lambda_y = \frac{V_y}{V_0}; \lambda_z = \frac{V_z}{V_0}, \quad (1.1)$$

where $\lambda_x^{(n)}, \lambda_y^{(n)}, \lambda_z^{(n)}, \Pi^{(n)}, \omega^{(n)} \sim o(t^n)$; t is the tangent of the inclination to the y -plane, generated by the line of intersection of the plane tangential to the airfoil and the plane $z = \text{constant}$; $o(t^n)$ denotes a quantity of order not lower than t^n . The 0-subscript denotes the quantities related to the incident flow. The quantities with indices $(n), (n), (n)$, with $n = 1, 2, 3$ are functions known from the solution of problem I) in the first 3 approximations, and with indices $(4), (4), (4)$ are the sought-for fourth-order functions. For the vorticity corrections in the fourth approximation the following homogeneous system of equations holds:

$$\frac{\partial \lambda_x}{\partial x} + \frac{\partial \Pi}{\partial x} = 0, \quad \frac{\partial \lambda_y}{\partial x} + \frac{\partial \Pi}{\partial y} = 0, \quad \frac{\partial \lambda_z}{\partial x} + \frac{\partial \Pi}{\partial z} = 0, \quad \frac{\partial \omega}{\partial x} + \frac{\partial \lambda_x}{\partial x} + \frac{\partial \lambda_y}{\partial y} + \frac{\partial \lambda_z}{\partial z} = 0,$$

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$$M_0^2 \frac{\partial \Pi}{\partial x} - \frac{\partial \omega}{\partial x} = 0, \quad (1.3)$$

and the boundary conditions on the discontinuity surface

$$\begin{aligned} \lambda_x &= -\frac{1}{\sqrt{M_0^2 - 1 - p_1^2}} \lambda_y + H_1(x, z), \\ \lambda_z &= \frac{p_1}{\sqrt{M_0^2 - 1 - p_1^2}} \lambda_y + H(x, z), \end{aligned} \quad (1.4)$$

$$\Pi = -\lambda_x + H_2(x, z),$$

$$\omega = -M_0^2 \lambda_x + H_4(x, z).$$

(H is taken from Ref. 1 (Op. cit). After transformations the wave equation:

$$(M_0^2 - 1) \frac{\partial^2 W}{\partial x^2} - \frac{\partial^2 W}{\partial y^2} - \frac{\partial^2 W}{\partial z^2} = -\Omega(y, z), \quad (1.24)$$

is obtained where

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$$\Omega(y,z) = \sqrt{M_0^2 - 1 - p_1^2} \frac{\partial^2}{\partial z^2} \int_0^y [H_1(y,z) + H_3(y,z)] dy - \frac{\partial}{\partial z} [H_2(y,z) + p_1(H_1(y,z) - H_3(y,z))] . \quad (1.25)$$

with boundary conditions

$$\frac{\partial W}{\partial y} = 0 \text{ for } y = 0. \quad (1.26)$$

$$W(x,y,z) = \sqrt{M_0^2 - 1 - p_1^2} \int_0^y [H_1(y,z) + H_3(y,z)] dy$$

$$\text{for } x = \sqrt{M_0^2 - 1 - p_1^2} y + p_1 z. \quad (1.27)$$

This problem can be reduced to the Cauchy problem. After finding the function $W(x,y,z)$, one obtains

$$\lambda_x = \frac{\partial W}{\partial x} + H_3(y,z),$$

$$\lambda_y = \frac{\partial W}{\partial y}. \quad (1.30)$$

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Influence of vorticity...

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D291/D305

$$\lambda_z = \frac{\partial H}{\partial z} - \sqrt{M_0^2 - 1 - p_1^2} \frac{\partial}{\partial z} \int_0^y [H_1(y,z) - H_3(y,z)] dy + \\ + p_1 [H_1(y,z) - H_3(y,z)] + H_2(y,z). \quad (1.30)$$

The solution of the boundary-value problem is given by

$$W(x_0, y_0, z_0) = \frac{1}{2\pi} \frac{\partial}{\partial x_0} \left[\iint_{S_I + S_{II}} \left(v \frac{\partial W}{\partial v} - W \frac{\partial v}{\partial v} \right) ds + \iiint_D \Omega v d\tau \right] \quad (2.4)$$

where

$$v = \ln \left[\sqrt{\frac{(x-x_0)^2}{r^2} - 1} + \frac{x-x_0}{r} \right], \quad (2.5)$$

$$r = \sqrt{(y-y_0)^2 + (z-z_0)^2} \quad (2.6)$$

S_I and S_{II} are, respectively, the parts of the surfaces (I) for $y > 0$ and (II) for $y < 0$, which are inside the characteristic cone originating from the point (x_0, y_0, z_0) at which the sought-for func-

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Influence of vorticity...

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tions are computed. In order to find the pressure on the airfoil surface, the value of the function $W(x_0, y_0, z_0)$ for $y_0 = 0$ is computed. This value is found as

$$W(x_0, 0, z_0) = \frac{1}{\pi} \times \left[\frac{2}{\sqrt{\sqrt{2} \left(x_0 - \frac{p_1}{\sqrt{M_0^2 - 1}} z_0 \right)}} \iint_{S_1} \frac{\frac{\partial W}{\partial \nu}}{\sqrt{\nu_2(u) - \nu}} ds + \iint_{\tau_1} \Omega \cdot V d\tau \right] \quad (2.33)$$

The quantity Π , the fourth-order vorticity correction to the dimensionless pressure, is given by

$$\Pi = - \frac{1}{\sqrt{M_0^2 - 1}} \frac{\partial W(x_0, y_0, z_0)}{\partial x_0}, \quad (2.34)$$

In order to find the value of Π on the airfoil surface, the derivative $\partial W(x_0, y_0, z_0) / \partial x_0$ has to be calculated. It is found as

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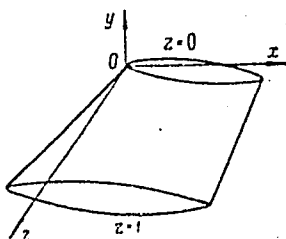
Influence of vorticity...

$$\Pi = -\frac{1}{\pi} \cdot \frac{1}{V M_0^2 - 1} \left[\frac{2}{V \sqrt{2} \left(x_0 - \frac{\rho_1}{V M_0^2 - 1} z_0 \right)} \iint_{S_1} \frac{1}{\sqrt{v_2(z) - v}} \times \right. \quad (2.39)$$

$$\left. \times \frac{\partial^2 w}{\partial y^2} \cdot \frac{\partial v_2}{\partial x_0} dS + \iint_{\sigma_1} \frac{1}{V (x_1 - x_0)^2 - r^2} \Omega(y, z) d\sigma \right].$$

There are 1 figure and 4 Soviet-bloc references.

Legend to Fig: Developable
airfoil-surface.



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3104/3201

Change of resistivity of some metals...

Legend to Fig. 2:

1, stress; 2, pressure;

3, Wood's alloy.

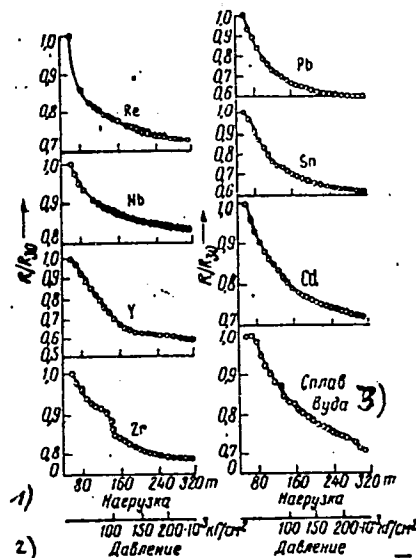


Fig. 2

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COLLECTION NR. AP4012981

S/0020/64/154/004/0974/0977

AUTHORS: Sapozhnikov, D.I.; Alkhazov, D.G.; Eydel'man, Z.M.;
Bazhanova, N.V.; Lemberg, I. Kh.; Maslova, T.G.; ~~St. Shum~~,
I.B.; Popova, I.A.; Saakov, V.S.; Popova, C.F.,

TITLE: Participation of xanthophylls in oxygen transport during
photosynthesis

ORIGIN: AN SSSR. Doklady*, v. 154, no. 4, 1964, 974-977

KEY TAGS: xanthophyll, oxygen transport, photosynthesis, labeled
oxygen green algae, chlorella species, O sup 18 determination,
lutein, carotene, chlorophyll, chromatography, F sup 18

ABSTRACT: Labeled oxygen was used in a suspension of unicellular
green algae species chlorella pyrenoidosa to study transformation
reactions of violaxanthin and lutein. In addition, other pigment
reactions were investigated under the influence of light. The
suspension, enriched with O¹⁸ (68%), was exposed for 30 min-

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ACCESSION NR: AP4012981

ness to the light source. Chromatographic determinations of 4 pigment zones, carotene with colorless lipids, chlorophylls (masking neoxanthin), lutein and violaxanthin were made. These were then eluted and concentrated, followed by transformation of O^{18} into the radioactive isotope F^{18} , using cyclotron and 4 Mev proton irradiation of a film of each pigment fraction on a tantalum disk. The (figured) activities of the various pigments were calculated per 100 μ g of substance and a 46 microcoulomb charge carried by the pro- /
tons during 4 hours following irradiation, excluding the cosmic-ray background. Standard error was at most 5%. All fractions with the exception of lutein were strongly labeled following exposure to the light, and the latter indicated the absence of O participation in the OH groups at the lutein rings. It was concluded that an exchange occurred between the epoxy oxygen of violaxanthin and the O^{18} in the water, thus confirming participation of the xanthophylls in oxygen transport during photosynthesis. O^{18} also enters the lipid fractions of carotene and the composition of the substances accompanying the chlorophylls in the chromatogram. Orig. art. has:

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ACCESSION NR: AP4012981

3 figures.

ASSOCIATION: Botanicheskiy Institut im. V.L. Komarova Akademii
Nauk SSSR (Botanical Institute, Academy of Sciences SSSR)

SUBMITTED: 28Mar63

DATE ACQ: 26Feb64

ENCL: 00

SUB CODE: CH

NO REF SOV: 013

OTHER: 003

Card 3/3

L 40780-65 ENG(j)/EWG(r)/EWT(1)/FS(v)-3/ENG(v)/EWG(a)-2/ENG(c) Fe-5 DD
ACCESSION NR: AP5005986 S/0218/65/030/001/0058/0059

AUTHOR: Popova, I. A.

TITLE: The effect of quinone upon light conversion of violaxanthine in chloroplasts

SOURCE: Biokhimiya, v. 30, no. 1, 1965, 58-59

TOPIC TAGS: quinone, violaxanthine, chloroplast, photosynthesis, photooxidation

ABSTRACT: The effect of quinone (as an oxidant in the Hill reaction) upon the conversion of violaxanthine--an intermediate product of the photooxidation of water--was studied. Illumination of a "raw" suspension of chloroplasts isolated from leaves of fluminensis Tradescantia produced no decrease in the violaxanthine level. The addition of quinone (final concentration of 0.1 mg per 0.1 mg of chlorophyll) under light in an atmosphere of nitrogen results in a considerable decrease in the level of this pigment. The magnitude of this change corresponds to that occurring in leaves. Orig. art. has: 1 table.

ASSOCIATION: Botanicheskiy institute im. V. L. Komarova Akademii nauk SSSR, Leningrad (Botanical Institute, Academy of Sciences, SSSR)

Card 1/2

L 40780-65

ACCESSION NR: AP5005986

SUBMITTED: 19Mar64

ENCL: 00

SUB CODE: LS, OC

NO REF SOV: 005

OTHER: 004

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ROZENFELD, Ye.L.; POPOVA, I.A.

Changes in the activity of liver α - and γ - amylases
following the introduction of adrenaline in rabbits. Vop.
med. khim. 8 no.5:442-471 S-0162 (MIRA 17:4)

1. Laboratoriya klinicheskoy khimii i biokhimii uglevodogo
obmena Instituta biologicheskoy i meditsinskoy khimii AN
SSSR, Moskva.

L 31228-66 EWT(1) RO

ACC NR: AP6022784

SOURCE CODE: UR/0301/66/012/002/0199/0204

AUTHOR: Popova, I. A.

ORG: Department of Biochemistry of Animals, Biology-Soil Faculty, MGU (Kafedra biokhimi i zhivotnykh biologo-pochvenogo fakul'teta MGU)

TITLE: Effect of imidazole on the biosynthesis of acetylcholine in rabbit brain tissue

SOURCE: Voprosy meditsinskoy khimii, v. 12, no. 2, 1966, 199-204

TOPIC TAGS: rabbit, biosynthesis, brain tissue, enzyme, histidine, magnesium

ABSTRACT: It was established earlier that the addition of imidazole to the enzyme system extracted from the muscle tissue of a cricket and taking part in the synthesis of acetylcholine suppresses or simulates the formation of acetylcholine in relation to the varying proportion of reaction components.

To further develop this problem the action of imidazole and its derivatives on the formation of acetylcholine using an enzyme system obtained from the brain tissue of a rabbit was studied.

It was found that the addition of imidazole, carnosine, anserine or histidine decreases the rate of acetylcholine biosynthesis in enzymatic preparations of rabbit brain tissue. The inhibitory effect is especially distinct in

Cord 1/2

UDC: 612.822.2.015.36.014.46:547.781.1

L 37071-66

ACC NR: AP6004852

SOURCE CODE: UR/0218/85/030/035/0270/0279

AUTHORS: Severin, S. Ye.; Popova, I. A.

ORG: Moscow State University im. M. V. Lomonosov, Department of Biology and Soil Science, Chair of Animal Biochemistry (Kafedra biokhimi i zhivotnykh biologicheskogo fakul'teta Gosudarstvennogo universiteta)

TITLE: Participation of imidazol, adonilic acid, CoA, and their acetyl derivatives in the synthesis and biosynthesis of acetylcholine

SOURCE: Biokhimiya, v. 30, no. 5, 1965, 970-979

TOPIC TAGS: biosynthesis, chemical synthesis, reaction mechanism, enzyme

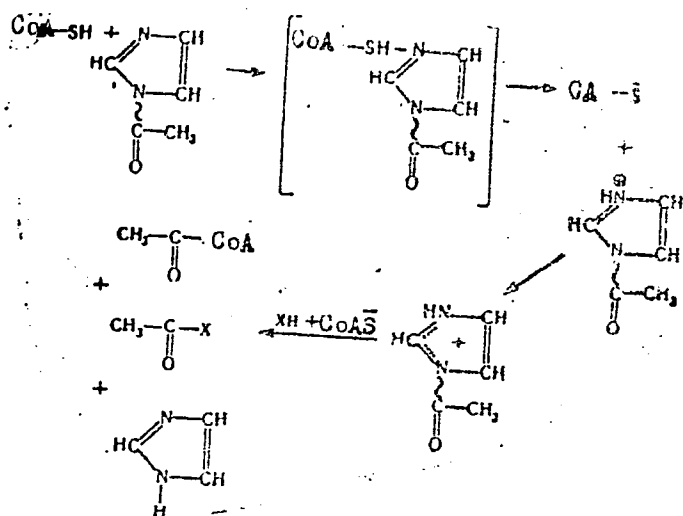
ABSTRACT: Acetylimidazol (I), acetyladenilic acid (II), and acetyl CoA (III) were synthesized, and their properties were investigated, especially with respect to their possible participation in processes of enzymatic and non-enzymatic acetylation of choline (IV). The transfer of the acetyl group to IV occurs most readily with I, and is accelerated in the presence of CoA. The latter reaction probably occurs according to the following scheme:

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UDC: 577.150.13

L 37071-66

ACC NR: AP6004852



III is also capable of releasing its acetyl group to IV, but at a considerably slower rate, while the transfer of acetyl from II to IV takes place only to a very slight degree. It also was shown that only in the case of II does the rate of enzymatic process exceed that of the non-enzymatic choline acetylation. Use of I in non-enzymatic processes leads to a much more intensive acetylation than in enzymatic

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ACC NR: AP6004852

processes. The mechanism of the participation of I in the formation of acetylcholine is discussed. The authors express their gratitude to Professor M. M. Botvinik for practical guidance and help in the chemical synthesis. Orig. art. has: 7 tables, 3 figures, and 3 equations.

SUB CODE: 06, 07/ SUBM DATE: 22Nov64/ ORIG REF: 002/ CTR REF: 001

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Card 3/3

BAZHANOVA, N.V.; MASLOVA, T.G.; POPOVA, I.A.; POPOVA, O.F.;
SAPOZHNIKOV, D.I.; DYDEL'MAN, Z.M. Prinimali uchast'ye:
CHERNOMOMSKIY, S.M.; MENITSKAYA, I.M.; SAPOZHNIKOV, D.I.,
otv. red.

[Plastid pigments of green plants and the methods of their
study] Pigmenty plastid zelenykh rastenii i metodika ikh
issledovaniia. Moskva, Izd-vo "Nauka," 1964. 119 p.

(MIRA 17:7)

1. Akademiya nauk SSSR. Botanicheskiy institut. 2. Labora-
toriya fotosinteza Botanicheskogo instituta im. V.L.
Komarova AN SSSR (for all except Sapozhnikov).

POPOVA, I.A.

Effect of quinone on the light transformation of violaxanthin
in chloroplasts. Biokhimiya 50 no.1:58-59 Jan-F '65.

(MIRA 18:6)

1. Botanicheskii Institut imeni Komarova AN SSSR, Leningrad.

SEVERTN, S.Ye.; POROVA, I.A.

Imidazole, adenylic acid, coenzyme A, and their energy derivatives
involved in the synthesis and biosynthesis of arginine.
Biokhimiia 30 no.5:970-979 1965. (MIRA 18:19)

1. Kafedra biokhimiia zhivotnykh biologo-pedagogicheskogo fakul'teta
Gosudarstvennogo universiteta imeni M.V.Lomonosova, Moskva.

ZAKHAROVA, Galina Vasil'yevna, kand. tekhn. nauk; POPOV, Ivan Alekseyevich, kand. tekhn. nauk; ZHOROVA, Lilianna Pavlovna; FEDIN, Boris Vladimirovich; Prinimali uchastiye: MUKHINA, Z.S., zasl. deyatel' nauki i tekhn. RSFSR; POPOVA, I.A., zasl. deyatel' nauki i tekhn. RSFSR; YEGOROVA, N.D., zasl. deyatel' nauki i tekhn. RSFSR; NIKITINA, Ye.I., zasl. deyatel' nauki i tekhn. RSFSR; ZHEMCHUZHIAYA, Ye.A., zasl. deyatel' nauki i tekhn. RSFSR; ZHABINA, V.A.; SAVITSKIY, Ye.M., red.; STROYEV, A.S., red.; ARKHANGEL'SKAYA, M.S., red. izd-va; KARASEV, A.I., tekhn. red.

[Niobium and its alloys] Niobii i ego splavy. By G.V.Zakharova i dr. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1961. 368 p. (MIRA 14:12)
(Niobium)